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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/743,537 | 12/23/2003 | David John Gwilt | 550-501 | 5788 |

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NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

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| EXAMINER |
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MISIURA, BRIAN THOMAS

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| ART UNIT | PAPER NUMBER |
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2112

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/743,537 | Applicant(s) GWILT, DAVID JOHN | |
| | Examiner Brian T. Misiura | Art Unit 2112 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 8-14, 17, 20-26, 29, 32-38, 41, 44-50, 53, 56-62, 65, 67-73, 76, 79-85, 88 and 91-94 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 6, 7, 15, 16, 18, 19, 27, 28, 30, 31, 39, 40, 42, 43, 51, 52, 54, 55, 63, 64, 66, 74, 75, 77, 78, 86, 87, 89 and 90 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Detailed Action

Response to Arguments

Applicant's arguments, filed 3/22/2006, with respect to the rejection of claims 1-95 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 2, 8, 9, 11, 12, 13, 14, 20, 21, 23, 24, 25, 26, 32, 33, 35, 36, 37, 38, 44, 45, 47, 48, 49, 50, 56, 57, 59, 60, 61, 62, 67, 68, 70, 71, 72, 73, 79, 80, 82, 83, 84, 85, 91,

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92, and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tischler et al. U.S. Patent Application No. 10/425,574.

1. Per claims 1, 13, 25, 37, 49, 61, 72, and 84, Tischler discloses: a data processing apparatus comprising:

- a master device (figure 4, numeral 410);
- a first slave device (figure 4, numeral 430);
- and a common communication bus providing a communication path between said master device and said first slave device (figure 4, numerals 420, 410 and 430),
- and for passing transaction requests from said master device to said first slave device (column 7 lines 55 – 59, figure 4);
- wherein said master device having a transaction annotator for generating a transaction identifier as part of each transaction request passed from said master device to said first slave device (column 7 lines 59-67, figure 4 numeral 440),
- said transaction identifier having a master identifier portion and a priority request portion specifying a priority value for said transaction request (column 7 lines 59-67 and column 8 lines 38-42, figure 5 numeral 510 and 520 – the PID (priority request portion) and SID (source identifier portion) in combination form the transaction identifier);
- and said first slave device having transaction ordering logic (figure 4 numeral 450) operable to determine an order of service of a plurality of transaction requests having respective transaction identifiers in dependence upon transaction ordering constraints at least partially derived from master identifier portions of said transaction identifiers and in dependence upon said priority values of said transaction identifiers (see generally column 8 line 43 – column 10 line 3, figures 6 and 7 – it can be seen from figure 7 numerals 710-770, that the execution order analysis unit of the slave reads both the PID and SID bits to obtain a stream identifier which is then used to determine an optimum order for executing the data transaction.).

Tischler does not disclose: and at least one further slave device.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to add another slave to the system therefore creating a plurality of communication paths between the master device and said plurality of slave devices.

The modification would have been obvious because one having ordinary skill in the art would want to add more than one slave device to a system to improve productivity of the system.

2. Per claims 2, Tischler discloses: a data processing apparatus according to claim 1, in which said master identifier portion specifies one of a plurality of possible master identifier values associated with said master device (column 8 lines 20-37, figures 4 and 5 – Tischler states that there will be many data transactions on mixed order bus 420 from a number of different sources, it is understood that these sources are from within the master unit 410.).

3. Per claims 8, 20, 32, 44, 56, 67, 79, and 91, Tischler discloses: a data processing apparatus according to claim 1, in which said priority request portion comprises at least one bit value specifying either a high priority or a low priority for a transaction request associated with said transaction identifier (column 8 lines 7-18, figure 5 numeral 510 – this states that the number of bits can be any integer, in the case of 1 integer this classifies the priority id to specify either a high or low priority for the transaction request.).

4. Per claims 9, 21, 33, 45, 57, 68, 80, 92, Tischler discloses: a data processing apparatus according to claim 1, in which said transaction request is either a read request for reading data from a memory attached to said slave device or a write request

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for writing data to said memory attached to said slave device (column 6 lines 37-47, figure 1, CPU core 110 accessing memory via memory controller 180 with write/read requests).

5. Per claims 11, 23, 35, 47, 59, 70, 82, 94, Tischler discloses: a data processing apparatus according to claim 1, in which said slave device is a memory controller (column 6 lines 37-47, figure 1 numeral 180).

6. Per claims 12, 24, 36, 48, 60, 71, 83, 95, Tischler discloses: a data processing apparatus according to claim 1, in which said master device is one of: a central processing unit; a direct memory access controller; a liquid crystal display controller; or a video accelerator (column 6 lines 37-47, figure 1 numeral 110).

7. Claims 5, 17, 29, 41, 53, 65, 76, and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tischler et al. U.S. Patent Application No. 10/425,574 in view of Van Der Zee et al. U.S. Patent Application No. 09/964,405.

8. Per claims 5, 17, 29, 41, 53, 65, 76, 88, Tischler does not disclose the limitations of these claims, however, Van Der Zee discloses: data processing apparatus according to claim 1, in which said priority value is used to derive a timeout value for servicing of a transaction request associated with said transaction identifier (paragraph 54).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Van Der Zee into the system of Tischler in order to further improve on the delay of servicing of transaction requests.

The modification would have been obvious because one having ordinary skill in the art would want to in order to further improve on the delay of servicing of transaction requests.

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9. Claims 10, 22, 34, 46, 58, 69, 81, and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tischler et al. U.S. Patent Application No. 10/425,574 in view of Wyschogrod et al. U.S. Patent Application No. 10/217,592.

10. Per claim 10, 22, 34, 46, 58, 69, 81, and 93, Tischler does not disclose the bit mask, however, Wyschogrod discloses a programmable bit mask for finding patterns of a header.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's claimed invention to incorporate the teaching of Wyschogrod into the system of Tischler to easily find which bits of a corresponding transaction request are referring to which value, either the PID or the SID.

The modification would have been obvious because one having ordinary skill in the art would want to easily find which bits of a corresponding transaction request are referring to which value, either the PID or the SID.

Allowable Subject Matter

11. Claims 3, 4, 6, 7, 15, 16, 18, 19, 27, 28, 30, 31, 39, 40, 42, 43, 51, 52, 54, 55, 63, 64, 66, 74, 75, 77, 78, 86, 87, 89, and 90 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian T. Misiura whose telephone number is (571) 272-0889. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571)272-3676. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian Misiura

5/24/2006

[Signature]
REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
5/25/06